

(34) CUTTING TOOL MADE OF SURFACE-COATED WC-BASE SINTERED HARD ALLOY

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**PURPOSE:** To provide a cutting tool showing excellent cutting performance, on the surface of a WC-base sintered hard alloy substrate, by forming a specified titanium nitride internal layer and a specified titanium carbo-nitride external layer thereon.

**CONSTITUTION:** A titanium nitride internal layer having 5 to 50nm thickness and whose crystalline grains have a granular structure is formed on the surface of a WC-base sintered hard alloy substrate. On the titanium nitride internal layer, a titanium carbo-nitride external layer having 1 to 8 $\mu$ m thickness and whose crystalline grains have a columnar structure is formed. On the surface of the cutting tool made of the surface coated WC-base sintered hard alloy, furthermore, a single layer or multi layers of one or two kinds among aluminum oxide, titanium carbonate and titanium carbo-nitride-oxide having a 0.1 to 2 $\mu$ m thickness. In this way, the surface coated cutting tool in which the peeling of the hard coated layer is hard to occur can be provided.